

AMENDMENTS TO THE CLAIMS

Please cancel claims 1-14 without prejudice, and add new claims 15-28 as follows:

1. *(Cancelled)*
2. *(Cancelled)*
3. *(Cancelled)*
4. *(Cancelled)*
5. *(Cancelled)*
6. *(Cancelled)*
7. *(Cancelled)*
8. *(Cancelled)*
9. *(Cancelled)*
10. *(Cancelled)*
11. *(Cancelled)*
12. *(Cancelled)*
13. *(Cancelled)*
14. *(Cancelled)*

15. *(New)* A remote video surveillance server comprising:

a number of channel interfaces units, each of the channel interfaces units coupled to a field terminal and receiving data over an E1 channel from the field terminal, wherein each of the channel interfaces units comprises at least a channel transceiver to communicate with the field terminal, wherein the field terminal is configured to package audio, video, and alarm data as E1 frames and transport the data over the E1 channel that is also used to send control information from a view station to the field terminal;
a network interface coupled to a data network; and
an information process kernel coupled between the channel interfaces units and the network interface, the information process kernel executing instructions for organizing the audio, video, and alarm data received by

the channel interface units to be transmitted on the Ethernet, and forming alarm signals correspondingly from the alarm data.

16. (New) The remote video surveillance server of claim 15, wherein the information process kernel depending on an IP multicast protocol transmits the audio and video data to each substation.
17. (New) The remote video surveillance server of claim 15, wherein each of the channel interfaces units further comprises:
 - at least one channel transceiver chip;
 - at least one programmable device;
 - a processor, coupled to the at least one channel transceiver chip and the at least one programmable device and controlled under a clock signal, for synchronizing the at least one channel transceiver chip and the at least one programmable device to cause the audio and video data to be transferred into the memory and read the audio and video data out of the memory onto a data bus when one of the viewing stations is controlled to display the data.
18. (New) The remote video surveillance server of claim 15, wherein the data network is one or more of Ethernet (E1) and local area network (LAN).
19. (New) The remote video surveillance server of claim 15, The remote video surveillance server of claim 7, wherein the network interface formats the data for transmission over the data network in accordance with a standard supported by the data network.
20. (New) The remote video surveillance server of claim 15, wherein the instructions when executed causes the processor to:
 - write the data to a PCI bus;
 - map an address on the PCI bus to an internal bus through an address

mapping register; and
store the data in the memory when the internal bus is detected idle.

21. (New) The remote video surveillance server of claim 15, wherein the instructions when executed causes the processor further to:
read the data out the memory when receiving a data channel number identifying the field terminal; and
transmit the data over the data network through the network interface.
22. (New) The remote video surveillance server of claim 5, wherein the field terminal is remotely located with respect to the view stations.
23. (New) A remote video surveillance system comprising:
a number of field terminals, each configured to produce audio, video and alarm data, the audio, video, and alarm data being packaged into frames and transported over a dedicated channel;
a number of viewing stations remotely located with respect to the field terminals;
a video server coupled between the field terminals and the viewing stations, the video server comprising a number of channel interfaces units, each of the channel interfaces units dedicated to one of the field terminals and receiving the audio, video, and alarm data from the one of the field terminals, a network interface coupled to a data network; and an information process kernel coupled between the channel interfaces units and the network interface, the information process kernel executing instructions for organizing the audio, video, and alarm data received to have the audio and video data transmitted on a data network, and forming alarm signals correspondingly from the alarm data.
24. (New) The remote video surveillance system of claim 23, wherein the video server is configured to act as a multipoint system.

- 25.(New) The remote video surveillance system of claim 24, wherein the information process kernel depending on an IP multicast protocol transmits the audio and video data to each substation.**
- 26.(New) The remote video surveillance system of claim 25, wherein the dedicated channel is an E channel and the data network is an LAN.**
- 27.(New) The remote video surveillance server of claim 23, wherein the instructions when executed causes the processor to:**
write the audio and video data to a PCI bus;
map an address on the PCI bus to an internal bus through an address mapping register; and
store the audio and video data in a memory when the internal bus is detected idle.
- 28.(New) The remote video surveillance server of claim 27, wherein the instructions when executed causes the processor further to:**
read the audio and video data out the memory when receiving a data channel number identifying the field terminal; and
transmit the audio and video data over the data network through the network interface.